January 13, 2005

CALL FOR PARTICIPATION IN IEEE 1588 STUDY GROUP

To all interested in IEEE 1588:

You are invited to participate in the IEEE Precise Networked Clock Synchronization Study Group chartered to study extensions to IEEE Std 1588-2002: IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems. After the approval of the PAR, the study group will become the official working group on the project.

The PAR (project authorization request) submitted to the IEEE defines the following purpose and scope for the project.

SCOPE:
The scope of the revision broadens the scope of the original standard with no reduction in the applicability or performance of the original standard. The revision allows larger topologies. Extensions include mappings to additional network transports as envisioned in the original standard, which included only an Ethernet UDP/IP mapping. Mappings to both DeviceNet and a layer-2 Ethernet implementation are added. The original standard is extended to permit synchronization accuracy better than 1 nanosecond. Extensions also include formal mechanisms for message extensions, higher sampling rates, correction for asymmetry, a new clock type to reduce error accumulation in large topologies, and specifications on how to incorporate the resulting additional data into the synchronization protocol. Extensions are made to enable the protocol to be used in applications where redundancy and security are a requirement. Extensions to promote conformance and increased management capability are added. Provision is made for the use of unicast in addition to multicast. Sections on recommended practices including issues of filtering algorithms, and servos and slave clocks are added. Revisions include corrections and clarifications that have emerged from user experience since the standard was published.

PURPOSE:
The original purpose of IEEE 1588 was to create a standard for synchronizing clocks in distributed measurement and control systems using networks such as Ethernet to meet the following needs of such applications:

- Spatially localized systems
- Microsecond to sub-microsecond accuracy
- Administration free
- Accessible for both high-end devices and low-cost, low-end devices.

Since the original standard was published, a number of different application areas have emerged that require extensions to the standard. In addition, the requirements of the original application areas have increased such that it also requires extensions to the standard. The revised standard addresses these needs while maintaining the original goal and spirit of the IEEE Std 1588-2002 standard. The revised standard has maximum compatibility with the previous specifications.

ACTIVITIES OF THE STUDY GROUP:

This extension to IEEE Std 1588-2002 is expected to involve a significant amount of technical work. Participants will be expected to attend meetings regularly and to participate in subcommittee work and assignments. We anticipate teleconference meetings twice a month and 2-3 day face-to-face meetings approximately every four months. The entire project is expected to take about 18 months of active committee work with the bulk of the technical work concentrated in the first 12 months.

Teleconference calls will be held on the first and third Thursday of each month from 8 AM to 9 AM Pacific Time (San Francisco). The first meeting will be held on February 3, 2005.

Those interested in participating should send email to john_eidson@agilent.com. Please include full contact information: phone, fax, email, surface mail. Phone bridge information will be sent to all requesting to participate. If you do not receive this information by February 1, 2005 please telephone John Eidson (650)-485-4263.